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भाग 1 वर्गीकरण और आयामों की नियुक्ति

(पहला पुनरीक्षण)

Indian Standard

IMPLANTS FOR SURGERY — PARTIAL AND TOTAL HIP JOINT PROSTHESES

PART 1 CLASSIFICATION AND DESIGNATION OF DIMENSIONS

(First Revision)

ICS 11.040.40

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

March 2000 **Price Group 4**

Orthopaedic Instruments and Accessories Sectional Committee, MHD 2

NATIONAL FOREWORD

This Indian Standard (First Revision) which is identical with ISO 7206-1 : 1995 'Implants for surgery — Partial and total hip joint prostheses — Part 1: Classification and designation of dimensions' issued by the International Organization for Standardization (ISO) was adopted by the Bureau of Indian Standards on the recommendations of Orthopaedic Instruments and Accessories Sectional Committee and approval of the Medical Equipment and Hospital Planning Division Council.

This standard was published in 1987 as dual number standard. Its first revision has been issued to incorporate the modifcations effected in the second edition of ISO 7206-1 brought out in 1995.

The text of above mentioned ISO standard has been approved as suitable for publication as Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.

b) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

This standard has been issued in 9 parts. The other parts of this standard are:

Part 2 Bearing surfaces made of metallic and plastic materials (*first revision*)

Part 3 Determination of endurance properties of stemmed femoral components without application of torsion

Part 4 Determination of endurance properties of stemmed femoral components with application of torsion

Part 5 Determination of resistance to static load of head and neck region of stemmed femoral components

Part 6 Determination of endurance properties of head and neck region of stemmed femoral components

Part 7 Endurance performance of stemmed femoral components without application of torsion

Part 8 Endurance performance of stemmed femoral components with application of torsion

Part 9 Determination of resistance to torque of head fixation stemmed femoral components

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

IMPLANTS FOR SURGERY — PARTIAL AND TOTAL HIP JOINT PROSTHESES

PART 1 CLASSIFICATION AND DESIGNATION OF DIMENSIONS

(First Revision)

1 Scope

This part of ISO 7206 specifies the means of classification and standardizes the designation of dimensions for partial and total hip joint prostheses.

It does not give a comprehensive description of modular and anatomic prostheses but can be used for the description of specific features of such prostheses.

2 Classification

Hip joint prostheses shall be classified as follows:

a) femoral prosthesis (consisting of one or more components);

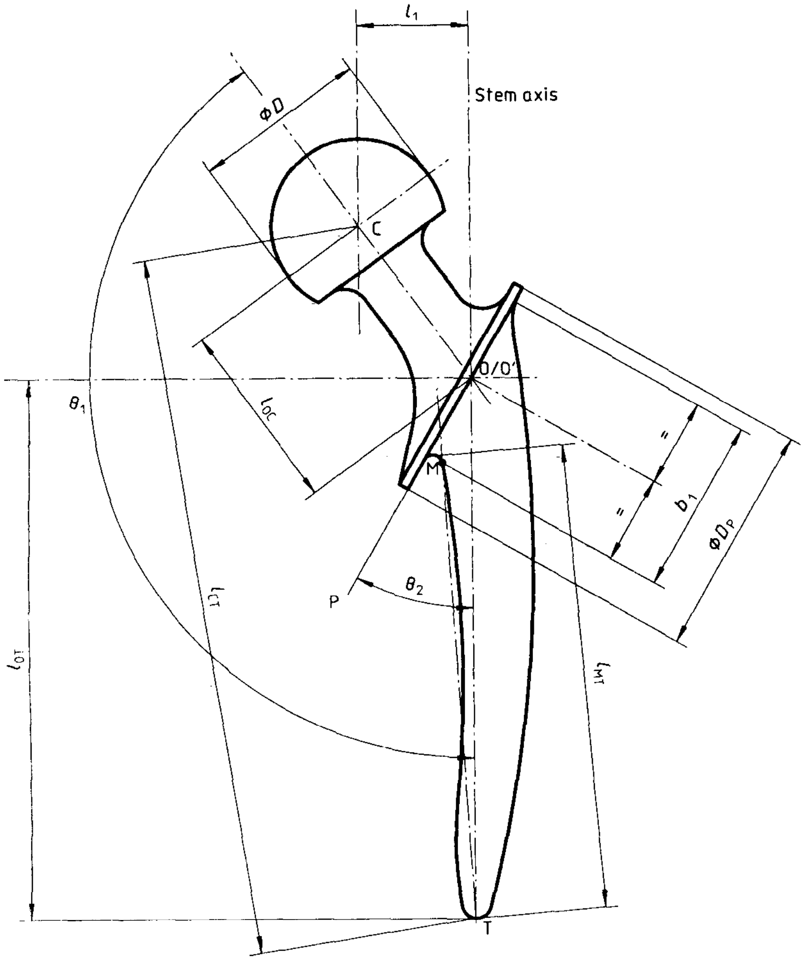
b) acetabular prosthesis (consisting of one or more components);

c) a combination of a) and b).

3 Designation of dimensions

Dimensions of hip joint prostheses shall be designated in accordance with figures 1 to 6.

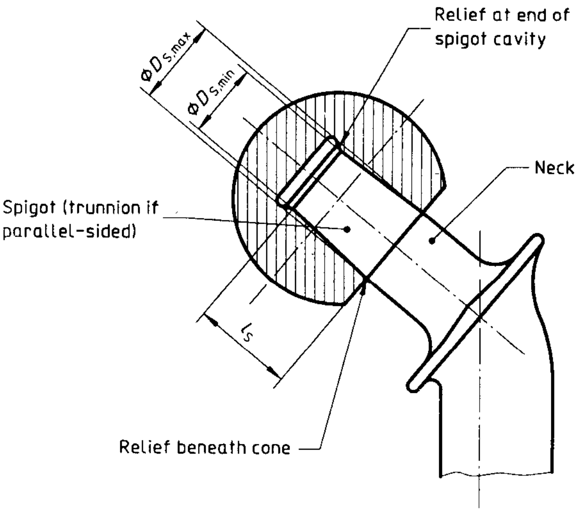
NOTE 1 Figures 1 to 6 are intended to be illustrative of typical hip joint prostheses and to designate dimensions, but representation of the components does not otherwise form part of this International Standard.



Key

C = head centre of curvature
CO' = neck axis of symmetry (O' is not necessarily coincident with O)
O = plateau stem centre (not necessarily coincident with O')
PO = plateau major axis
T = tip of stem
M = junction radius mid-point of medial side of stem with plateau
b_1 = width of stem adjoining plateau
D = head diameter
D_P = mediolateral plateau diameter
l_1 = offset of head
l_{CT} = length from head centre to tip of stem
l_{MT} = medial stem length
l_{OC} = neck length (OC) (not necessarily coincident with the neck axis)
l_{OT} = stem length [length between tip and plateau (OT)]
θ_1 = neck angle (COT)
θ_2 = plateau angle (POT)
Stem axis is the straight line from the centre of the stem tip in the intersection plane of the plateau
The stem axis mid-line is the straight line passing through the centres of two sections, 10 mm and 80 mm respectively from the tip (see figure 4)

Figure 1 — Designation of dimensions of femoral components of hip joint prostheses with plateau


Relief at end of spigot cavity
ϕD S,max
ϕD S,min
Neck
Spigot (trunnion if parallel-sided)
l S
Relief beneath cone

Key

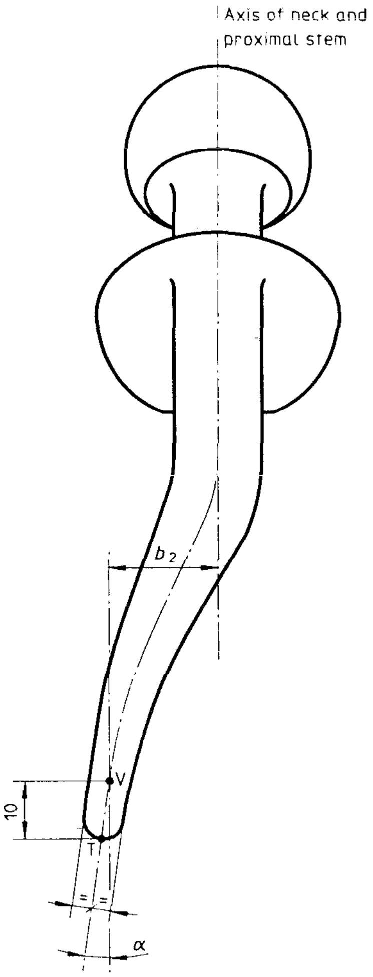
$D_{S,min}$ = spigot minimum diameter

$D_{S,max}$ = spigot maximum diameter

l_S = spigot length

Figure 2 — Detail of head secured by spigot or trunnion (alternative design of head)

Dimensions in millimetres



Key

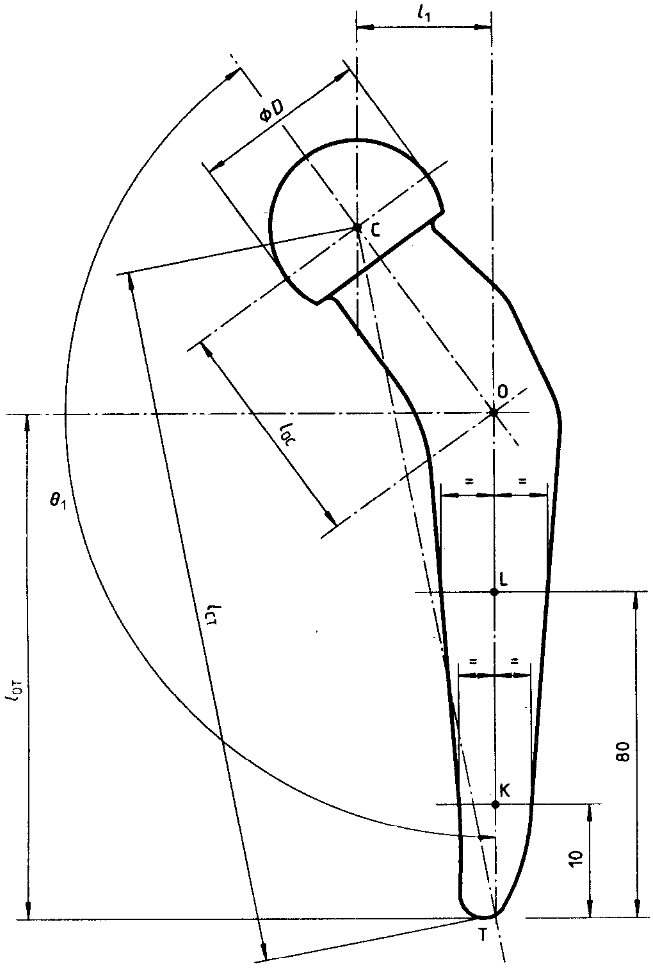
V = point on stem centreline 10 mm from T

b_2 = offset of V from plane containing neck and proximal part of stem

α = angle of stem distal end to centreline of neck and proximal stem

Figure 3 — Lateral view of asymmetrical prosthesis illustrating dimensions required to specify antererio/posterior offset

Dimensions in millimetres



Key

C = head centre of curvature

CO = neck nominal axis

O = stem axis and midline intersection of neck nominal axis

T = tip of stem

KL = stem axis midline

D = head diameter

l_1 = offset of head

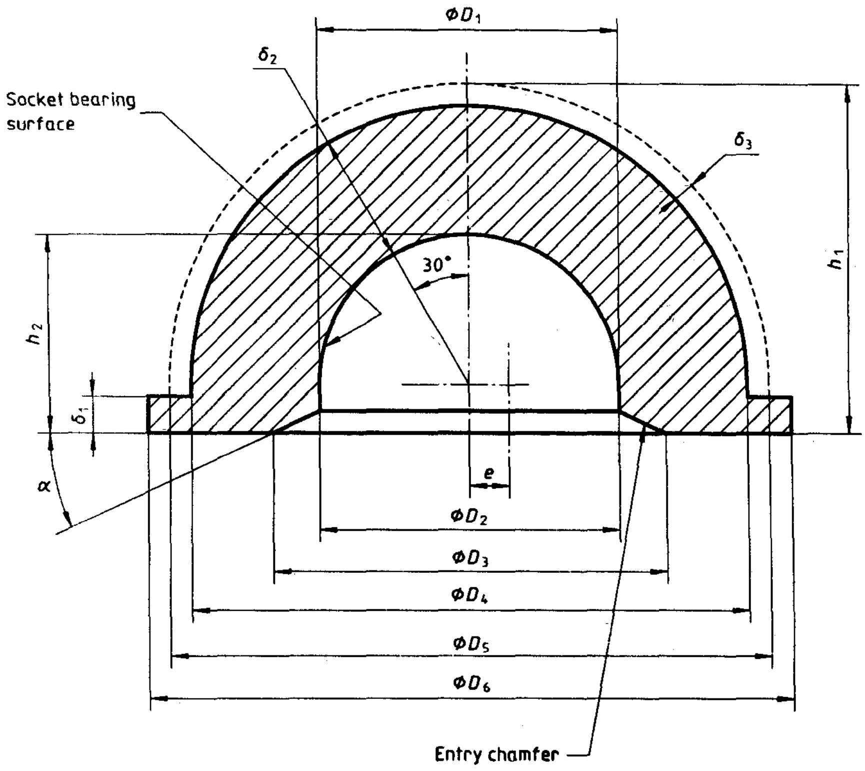
l_{CT} = length from head centre to tip of stem

l_{OC} = neck length (OC)

l_{OT} = effective stem length (OT)

θ_1 = neck angle (COL)

Figure 4 — Designation of dimensions of femoral component of hip joint prostheses without plateau



Key

D_1 = spherical socket diameter

D_2 = retentive or non-retentive entry diameter

D_3 = relief diameter (entry chamfer, if present, need not extend through whole circumference)

D_4 = effective spherical external diameter

D_5 = outside cup diameter

D_6 = flange diameter (when present)

δ_1 = flange thickness (when present)

δ_2 = minimum wall thickness

δ_3 = retention system (grooves, ribs, spikes, etc.) depth may be variable

h_1 = overall height

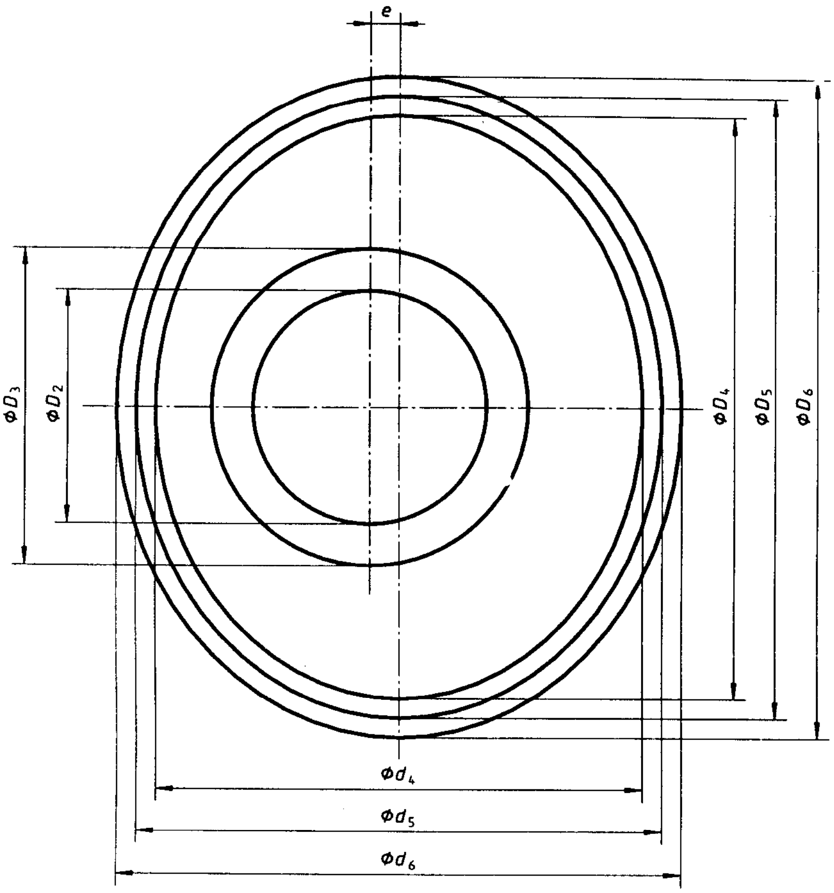
h_2 = inside depth

α = angle of entry chamfer

NOTE — The socket may be eccentrically disposed to the effective spherical external surface (circumscribed by D_5) in which case lateral displacement is denoted by eccentricity e (see figure 6 for designation of dimensions of oval/eccentric configurations).

Various means to extend part of the wall of the cup may be incorporated.

Figure 5 — Designation of dimensions of acetabular components of hip joint prostheses



Key

D_2 = retentive or non-retentive entry diameter

D_3 = relief diameter (entry chamfer, if present, need not extend through whole circumference)

D_4 = major effective spherical external diameter

D_5 = major outside diameter

D_6 = major flange diameter (when present)

d_4 = minor effective spherical external diameter

d_5 = minor cup outside diameter

d_6 = minor flange diameter (when present)

e = eccentricity between centre of spherical socket and centre of effective external diameter

Figure 6 — Designation of dimensions of acetabular components of hip joint prostheses — Plan view of oval/eccentric configuration

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Amendments Issued Since Publication

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